

Remarks

In response to the Office Action mailed August 17, 2006 claims 1, 8, 14, 17, 19, 20, 21, 22, 27 and 31 are herein amended and claims 2, 4, 6, 7, 9, 15, 18 and 33 are herein canceled.

Support for amendment to claim 1 is found in claims 1, 2, 6, 7 and 9, and page 19, lines 9-13 of the specification as originally filed. Support for amendment to claim 8 is found in claims 1, 2, 6, 7, and 8 as originally filed. Support for amendment to claim 14 is found in claims 9, 14 and 18, and page 19, lines 9-13 of the specification as originally filed. Support for amendment to claim 17 is found in claims 14, 15, and 17 as originally filed. Support for amendment to claim 19 is found in claims 14, 18, and 19 as originally filed. Support for amendment to claim 20 is found in claims 14, 15, and 20 as originally filed. Support for amendment to claim 21 is found in claims 14, 15, and 21 as originally filed. Support for amendment to claim 22 is found in claims 14, 15, and 22 as originally filed. Support for amendment to claim 27 is found in claim 27 and page 19, lines 9-13 of the specification as originally filed. Support for amendment to claim 31 is found in claims 9, 31 and 33, and page 19, lines 9-13 of the specification as originally filed.

Claims 20, 21, 22 are herein amended to depend from a pending claim. Support for amendment to claims 20, 21, and 22 is found in claims 14 and 15 as originally filed.

Applicant notes with appreciation: withdrawal of rejection of claims 1-3, 5-6 and 31-32 under 35 U.S.C. § 102(b) in light of Prater et al., U.S. patent application 2002/0092340, published July 18, 2002; withdrawal of rejection of claims 31, 33-43 and 45-51 under 35 U.S.C. § 103(a) in light of Webb et al., U.S. Patent number 5,563,710, issued October 8, 1996; withdrawal of rejection of claims 4, 7-30, 32 and 44 under 35 U.S.C. § 103(a) in light of Prater et al., U.S. patent application 2002/0092340, published July 18, 2002, in view of Webb et al., U.S. Patent number 5,563,710, issued October 8, 1996; and withdrawal of rejection of claims 1-8, 10-13, 15-19, 32 and 44 under 35 U.S.C. § 112, ¶ 2.

Applicant further notes with appreciation the Examiner's helpful comments in a telephonic conference of August 23, 2006.

No new matter is added and no claims are added that would require additional search on the part of the Examiner. Upon entry of this amendment, claims 1, 3, 5, 8, 10-14, 16-17, 19-32, 34-51 are pending.

Claims as amended are not obvious

The Office Action on pages 3-7 ¶ 3 rejects claims 1-3 and 5-51 under 35 U.S.C. § 103(a) in view of Prater et al., U.S. patent application 2002/0092340, published July 18, 2002.

The Office Action on page 7 ¶ 4 states:

It appears that what may be intended by claims 9, 18, and 33, which claims the presence of a beam splitter, if adequately claimed, would be allowable if adequately claimed. The art does not appear to teach or suggest the use of an array of VCSELs illuminating an array of cantilever detectors through a beam splitter, which beam splitter then receives the light reflected from the cantilever detectors and directs it to photosensing means that detect the deflection of the cantilever detectors.

Accordingly, Applicants herein amend independent claims 1, 14, and 31 to include the subject matter of claims 9, 18, and 33 which are accordingly here canceled. Similarly, Applicant herein amends independent claim 27 to include a beam splitter.

Claim 1 as here amended is directed to a method for reading an array of detectors contained in a device, the method having steps of: illuminating each of the detectors of the array using a plurality of electromagnetic beams arranged in an array, the device being a microfluidics device in which is contained the array of detectors, such that at least one electromagnetic beam illuminates at least one of the detectors of the array and such that illuminating includes generating electromagnetic beams, transmitting the electromagnetic beams from an array of vertical cavity surface emitting lasers (VCSELs) mounted on a substrate and such that a beam splitter is located between the VCSELs and the detectors such that a portion of beams is directed to the surface of the detectors; and sensing the plurality of electromagnetic beams reflected from the detectors.

Claim 14 as here amended is directed to an apparatus for reading an array of detectors contained in a microfluidics device, the apparatus having a housing with an opening to receive the microfluidics device; an array of illuminators positioned in the housing such that each illuminator is configured to illuminate at least one of the detectors in the array of detectors. The illuminators are an array of vertical cavity surface emitting lasers (VCSELs). The apparatus further includes a beam splitter located between the VCSELs and the detectors such that the beam splitter directs a portion of beams to the surface of the detectors and a position-sensing device contained in the housing and positioned to receive at least one electromagnetic beam

reflected from the detectors. Support for amendment to claim 14 is found in claims 14 and 18 as originally filed and page 19 lines 9-13 of the specification as originally filed.

Claim 27 as here amended is directed to an illuminator apparatus which is a micro-optical subassembly for illuminating a plurality of microcantilevers, the apparatus having a means for generating and transmitting a plurality of electro-magnetic beams in a linear array; an electrical power source further having electronics, control, wiring harness and interface connector; a microlens array for focusing the beams to provide a spot of illumination on each microcantilever target, wherein the microcantilever is emplaced so that the beams are reflected from the target; a beam splitter such that the beam splitter directs a portion of beams to the surface of microcantilever targets; and a housing for the apparatus.

Claim 31 as here amended is directed to an illuminator for generating an array of electromagnetic beams for reading a plurality of detectors, the illuminator having a plurality of vertical cavity surface emitting lasers (VCSELs), a circuit with electronics and control, a beam splitter located between the VCSELs and the detectors, such that the beam splitter directs a portion of beams to the surface of the detectors, and a housing, in which the illuminator includes the plurality of VCSELs connected in the circuit within the housing, and the VCSELs generate the array of electromagnetic beams, and in which the detectors are an array of microcantilevers within a microfluidics device.

Applicants assert that claims 1, 14, 27 and 31 as here amended are not obvious under 35 U.S.C. § 103(a) in view of Prater et al. Claims 3, 5, 8, and 10-13 depend directly or indirectly from claim 1 and incorporate all of the subject matter of claim 1 as here amended and additional subject matter. Claims 16, 17, and 19-26 depend directly or indirectly from claim 14 and incorporate all of the subject matter of claim 14 as here amended and additional subject matter. Claims 28-30 depend directly or indirectly from claim 27 and incorporate all of the subject matter of claim 27 as here amended and additional subject matter. Claims 32 and 34-51 depend directly or indirectly from claim 31 and incorporate all of the subject matter of claim 31 as here amended and additional subject matter. Therefore claims 3, 5, 8, 10-13, 16, 17, 19-26, 28-30, 32, and 34-51 also are not obvious in view of Prater et al.

Therefore rejection of claims 1, 3, 5, 8, 10-14, 16-17, 19-32, 34-51 under 35 U.S.C. § 103(a) can properly be withdrawn, an action which is respectfully requested.

Claims as amended comply with 35 U.S.C. § 112 ¶ 2

The Office Action on page 1 ¶ 1 rejects claims 9, 18, 19 and 33 under 35 U.S.C. § 112 ¶ 2.

Claims 9, 18, and 33 are herein canceled, therefore rejection of these claims is moot and can properly be withdrawn, an action which is respectfully requested.

Claim 19 is here amended to depend from claim 14. As claim 14 as here amended includes functional language, therefore this claim complies with 35 U.S.C. § 112 ¶ 2 and this rejection can properly be withdrawn, an action which is respectfully requested.

Summary

On the basis of the foregoing amendments and reasons, Applicants respectfully submit that the pending claims are in condition for allowance, which is respectfully requested.

If there are any questions regarding these remarks, the Examiner is invited and encouraged to contact Applicants' representative at the telephone number provided.

Respectfully submitted,



Sonia K. Guterman, Reg. No. 44,729
Adam M. Schoen, Reg. No. 58,576
Attorneys for Applicants
Lawson & Weitzen, LLP
88 Black Falcon Ave., Suite 345
Boston, Massachusetts 02210-2481
Tel: (617) 439-4990
Fax: (617) 439-3987
Customer Number 48425

Dated: September 20, 2006